These SRMs are for calibrating equipment and apparatus used to measure various components of gas mixtures and atmospheric pollutants. The typical gas mixture is supplied in a DOT 3AL specification aluminum (6061 alloy) cylinder with a nominal pressure exceeding 12.4 mPa that provides the user with approximately 0.73m3 of usable mixture. Due to increasing customer demand, these primary gas mixtures are in short supply and may not be readily available for sale. In such cases, a NIST traceable reference gas described below may be substituted.

A NIST Traceable Reference Material (NTRM) is a reference material produced by a commercial supplier with a well-defined traceability to NIST. This traceability is established via criteria and protocols defined by NIST that are tailored to meet the needs of the metrological community to be served. The NTRM concept was established to allow NIST to respond to the increasing needs for high quality reference materials by leveraging its relatively fixed human and financial resources with secondary reference material producers addressing to NIST defined protocol requirements are allowed to use thYRM trademark to identify their product.

The gas NTRM program was established in 1992 in partnership with the U.S. EPA and specialty gas companies as a means for providing end-users with the wide variety of certified gas standards needed to implement the Emissions Trading provision of the 1990 Clean Air Act. Gas NTRMs are produced and distributed by specialty gas companies with NIST oversight of the production and maintenance, and direct involvement in the analysis. NTRMs can be developed for any pollutant, concentration, and balance gas combination for which a NIST primary standard or SRM exists. The gas standards prepared according to this program are related, within known limits of uncertainty, to specific gaseous primary standards maintained by NIST.

				Nominal Amount-of-substance	
SRM	Description	Unit of Issue	Certified Component	fraction	
1658a	Methane in Air (Nominal 1 umol/mol)	cylinder	1 μmol/mol	CH4	
1659a	Methane in Air (Nominal 10 umol/mol)	cylinder	CH ₄	10 μmol/mol	
1660a	Methane and Propane in Air (Nominal: Methane 4 µmol/mol; Propane 1 µmol/mol)	cylinder	CH4: C3H8	4:1 μmol/mol	
1661a*	Sulfur Dioxide in Nitrogen (Nominal 500 µmol/mol)	cylinder	SO ₂	500 μmol/mol	
1662a*	Sulfur Dioxide in Nitrogen (Nominal 1000 µmol/mol)	cylinder	SO ₂	1000 μmol/mol	
1663a*	Sulfur Dioxide in Nitrogen (Nominal 1500 µmol/mol)	cylinder	SO ₂	1500 μmol/mol	
1664a*	Sulfur Dioxide in Nitrogen (Nominal 2500 µmol/mol)	cylinder	SO ₂	2500 μmol/mol	
1665b	Propane in Air (Nominal 3 µmol/mol)	cylinder	C ₃ H ₈	3 µmol/mol	
1666b	Propane in Air (Nominal 10 µmol/mol)	cylinder	C ₃ H ₈	10 μmol/mol	
1667b	Propane in Air (Nominal 50 µmol/mol)	cylinder	C3H8	50 µmol/mol	
1668b*	Propane in Air (Nominal 100 µmol/mol)	cylinder	C ₃ H ₈	100 μmol/mol	
1669b	Propane in Air (Nominal 500 µmol/mol)	cylinder	C ₃ H ₈	500 μmol/mol	
1674b*	Carbon Dioxide in Nitrogen (Nominal 7 % mol/mol)	cylinder	CO ₂	7 % mol/mol	
1676	Carbon Dioxide in Air (Nominal 365 µmol/mol)	cylinder	CO ₂	365 μmol/mol	
1677c*	Carbon Monoxide in Nitrogen (Nominal 10 µmol/mol)	cylinder	СО	10 μmol/mol	
1678c*	Carbon Monoxide in Nitrogen (Nominal 50 µmol/mol)	cylinder	СО	50 μmol/mol	
1679c*	Carbon Monoxide in Nitrogen (Nominal 100 µmol/mol)	cylinder	СО	100 μmol/mol	
1680b*	Carbon Monoxide in Nitrogen (Nominal 500 µmol/mol)	cylinder	СО	500 μmol/mol	
1681b*	Carbon Monoxide in Nitrogen (Nominal 1000 μmol/mol)	cylinder	СО	1000 μmol/mol	
1683b*	Nitric Oxide in Nitrogen (Nominal 50 µmol/mol)	cylinder	NO	50 μmol/mol	

SRM>	Description	Unit of Issue	Certified Component	Nominal Amount-of-substance fraction	
1684b*	Nitric Oxide in Nitrogen (Nominal 100 µmol/mol)	cylinder	NO	100 μmol/mol	

These SRMs are for calibrating equipment and apparatus used to measure various components of gas mixtures and atmospheric pollutants. The typical gas mixture is supplied in a DOT 3AL specification aluminum (6061 alloy) cylinder with a nominal pressure exceeding 12.4 mPa that provides the user with approximately 0.73m3 of usable mixture. Due to increasing customer demand, these primary gas mixtures are in short supply and may not be readily available for sale. In such cases, a NIST traceable reference gas described below may be substituted.

A NIST Traceable Reference Material (NTRM) is a reference material produced by a commercial supplier with a well-defined traceability to NIST. This traceability is established via criteria and protocols defined by NIST that are tailored to meet the needs of the metrological community to be served. The NTRM concept was established to allow NIST to respond to the increasing needs for high quality reference materials by leveraging its relatively fixed human and financial resources with secondary reference material producers addressing to NIST defined protocol requirements are allowed to use thYRM trademark to identify their product.

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These SRMs are for calibrating equipment and apparatus used to measure various components of gas mixtures and atmospheric pollutants. The typical gas mixture is supplied in a DOT 3AL specification aluminum (6061 alloy) cylinder with a nominal pressure exceeding 12.4 mPa that provides the user with approximately 0.73m3 of usable mixture. Due to increasing customer demand, these primary gas mixtures are in short supply and may not be readily available for sale. In such cases, a NIST traceable reference gas described below may be substituted.

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1685b*	Nitric Oxide in Nitrogen (Nominal 250 µmol/mol)	cylinder	NO	250 µmol/mol	
1686b*	Nitric Oxide in Nitrogen (Nominal 500 µmol/mol)	cylinder	NO	500 µmol/mol	
1687b*	Nitric Oxide in Nitrogen (Nominal 1000 µmol/mol)	cylinder	NO	1000 μmol/mol	
1693a*	Sulfur in Nitrogen (Nominal 50 µmol/mol)	cylinder	SO ₂	50 μmol/mol	
1694a*	Sulfur Dioxide in Nitrogen (Nominal 100 µmol/mol)	cylinder	SO ₂	100 µmol/mol	
1696a*	Sulfur Dioxide in Nitrogen (Nominal 3500 µmol/mol)	cylinder	SO ₂	3500 µmol/mol	
1800b	Eighteen Non-Methane Hydrocarbon Compounds in Nitrogen (Nominal 5 nmol/mol)	6 L Water Volume Cyl	(Eighteen components in small cylinder)	5 nmol/mol	
1804c	Toxic Volatile Organic Compounds in Nitrogen (Nominal 5.0 nmol/mol)	cylinder	(Thirty components)	5 nmol/mol	
2612a	Carbon Monoxide in Air (Nominal 10 µmol/mol)	cylinder	СО	10 μmol/mol	
2613a	Carbon Monoxide in Air (Nominal 20 µmol/mol)	cylinder	СО	20 μmol/mol	
2614a	Carbon Monoxide in Air (Nominal 42 µmol/mol)	cylinder	СО	42 μmol/mol	
2617	Carbon Dioxide in Nitrogen (Nominal 500 µmol/mol)	cylinder	CO ₂	500 μmol/mol	
2619a	Carbon Dioxide in Nitrogen (Nominal 0.5 % mol/mol)	cylinder	CO ₂	0.5 % mol/mol	
2620a	Carbon Dioxide in Nitrogen (Nominal 1.0 % mol/mol)	cylinder	CO ₂	1.0 % mol/mol	
2621a	Carbon Dioxide in Nitrogen (Nominal 1.5 % mol/mol)	cylinder	CO ₂	1.5 % mol/mol	
2622a	Carbon Dioxide in Nitrogen (Nominal 2.0 % mol/mol)	cylinder	CO ₂	2.0 % mol/mol	
2623a	Carbon Dioxide in Nitrogen (Nominal 2.5 % mol/mol)	cylinder	CO ₂	2.5 % mol/mol	
2624a	Carbon Dioxide in Nitrogen (Nominal 3.0 % mol/mol)	cylinder	CO ₂	3.0 % mol/mol	
2625a*	Carbon Dioxide in Nitrogen (Nominal 3.5 % mol/mol)	cylinder	CO ₂	3.5 % mol/mol	

SRM>	Description	Unit of Issue	Certified Component	Nominal Amount-of-substance fraction	
2627a	Nitric Oxide in Nitrogen (Nominal 5 µmol/mol)	cylinder	NO	5 µmol/mol	
2628a	Nitric Oxide in Nitrogen (Nominal 10 µmol/mol)	cylinder	NO	10 μmol/mol	
2629a*	Nitric Oxide in Nitrogen (Nominal 20 µmol/mol)	each	NO	20 μmol/mol	
2630*	Nitric Oxide in Nitrogen (Nominal 1500 µmol/mol)	each	NO	1500 μmol/mol	

These SRMs are for calibrating equipment and apparatus used to measure various components of gas mixtures and atmospheric pollutants. The typical gas mixture is supplied in a DOT 3AL specification aluminum (6061 alloy) cylinder with a nominal pressure exceeding 12.4 mPa that provides the user with approximately 0.73m3 of usable mixture. Due to increasing customer demand, these primary gas mixtures are in short supply and may not be readily available for sale. In such cases, a NIST traceable reference gas described below may be substituted.

A NIST Traceable Reference Material (NTRM) is a reference material produced by a commercial supplier with a well-defined traceability to NIST. This traceability is established via criteria and protocols defined by NIST that are tailored to meet the needs of the metrological community to be served. The NTRM concept was established to allow NIST to respond to the increasing needs for high quality reference materials by leveraging its relatively fixed human and financial resources with secondary reference material producers addressing to NIST defined protocol requirements are allowed to use thYRM trademark to identify their product.

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These SRMs are for calibrating equipment and apparatus used to measure various components of gas mixtures and atmospheric pollutants. The typical gas mixture is supplied in a DOT 3AL specification aluminum (6061 alloy) cylinder with a nominal pressure exceeding 1.2.4 mPa that provides the user with approximately 0.73m3 of usable mixture. Due to increasing customer demand, these primary gas mixtures are in short supply and may not be readily available for sale. In such cases, a NIST traceable reference gas described below may be substituted.

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PLEASE NOTE: The tables are presented to facilitate comparisons among a family of materials to help customers select the best SRM for their needs. For specific values and uncertainties, the certificate is the only official source.

2631a*	Nitric Oxide in Nitrogen (Nominal 3000 μmol/mol)	cylinder	NO	3000 µmol/mol
2635a*	Carbon Monoxide in Nitrogen (Nominal 25 µmol/mol)	cylinder	CO	
2636a*	Carbon Monoxide in Nitrogen (Nominal 250 µmol/mol)	cylinder	CO	250 μmol/mol
2637a*	Carbon Monoxide in Nitrogen (Nominal 2500 µmol/mol)	cylinder	СО	2500 μmol/mol
2638a*	Carbon Monoxide in Nitrogen (Nominal 5000 µmol/mol)	cylinder	СО	5000 µmol/mol
2639a	Carbon Monoxide in Nitrogen (Nominal 1 % mol/mol)	cylinder	СО	1 % mol/mol
2640a	Carbon Monoxide in Nitrogen (Nominal 2 % mol/mol)	cylinder	СО	2 % mol/mol
2641a	Carbon Monoxide in Nitrogen (Nominal 4 % mol/mol)	cylinder	СО	4 % mol/mol
2642a*	Carbon Monoxide in Nitrogen (Nominal 8 % mol/mol)	cylinder	СО	8 % mol/mol
2644a	Propane in Nitrogen (Nominal 250 µmol/mol)	cylinder	C ₃ H ₈	250 μmol/mol
2646a	Propane in Nitrogen (Nominal 1000 µmol/mol)	cylinder	C ₃ H ₈	1000 µmol/mol
2647a	Propane in Nitrogen (Nominal 2500 µmol/mol)	cylinder	C3H8	2500 μmol/mol
2657a*	Oxygen in Nitrogen (Nominal 2 % mol/mol)	cylinder	O ₂	2 % mol/mol
2658a*	Oxygen in Nitrogen (Nominal 10 % mol/mol)	cylinder	O ₂	10 % mol/mol
2659a*	Oxygen in Nitrogen (Nominal 21 % mol/mol)	cylinder	O ₂	21 % mol/mol
2660a*	Total Oxides of Nitrogen (NOx) in Air (Nominal 100 µmol/mol)	cylinder	NO _X	100 μmol/mol

SRM>	Description	Unit of Issue	Certified Component	Amount-of-substance fraction	
2730	Hydrogen Sulfide in Nitrogen (Nominal 5 µmol/mol)	cylinder	H ₂ S	5 µmol/mol	
2731	Hydrogen Sulfide in Nitrogen (Nominal 20 μmol/mol)	cylinder	H ₂ S	20 μmol/mol	
2735	Nitric Oxide in Nitrogen (Nominal 800 µmol/mol)	cylinder	NO	800 μmol/mol	
2737	Nitric Oxide in Nitrogen (500 nmol/mol)	cylinder	NO	500 μmol/mol	
2738	Nitric Oxide in Nitrogen (Nominal 1000 nmol/mol)	cylinder	NO	1000 μmol/mol	
2740a	Carbon Monoxide in Nitrogen (Nominal 10 % mol/mol)	cylinder	СО	10 % mol/mol	
2741a	Carbon Monoxide in Nitrogen (Nominal 13 % mol/mol)	cylinder	СО	13 % mol/mol	
2745*	Carbon Dioxide in Nitrogen (Nominal 16 % mol/mol)	cylinder	CO ₂	16 % mol/mol	

Nominal

These SRMs are for calibrating equipment and apparatus used to measure various components of gas mixtures and atmospheric pollutants. The typical gas mixture is supplied in a DOT 3AL specification aluminum (6061 alloy) cylinder with a nominal pressure exceeding 12.4 mPa that provides the user with approximately 0.73m3 of usable mixture. Due to increasing customer demand, these primary gas mixtures are in short supply and may not be readily available for sale. In such cases, a NIST traceable reference gas described below may be substituted.

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2750	Methane in Air (Nominal 50 μmol/mol)	cylinder	CH4	50 μmol/mol
2751	Methane in Air (Nominal 100 μmol/mol)	cylinder	CH4	100 μmol/mol
2764	Propane in Air (Nominal 0.25 µmol/mol)	cylinder	C3H8	0.25 μmol/mol
2765	Propane in Air (Nominal 100	cylinder	C3H8	100 nmol/mol

^{*} Those SRMs that are marked "*" are available as NTRMs from commercial suppliers.

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